

Polytechnic Institute of New York A merger of Polytechnic Institute of Brooklyn and the
New York University School of Engineering and Science
Institute for Advanced Professional Studies

Sep 79

a seminar/workshop

Pascal Programming for mini and microcomputers

Boston
October 22-26, 1979

Palo Alto
December 3-7, 1979

New York
April 25-26, May 1-3, 1979

Come to our Boston workshop and develop your skills in...

PASCAL is rapidly gaining acceptance in the computer world because of its:

- machine independence and
- accommodation of structured programming.

PASCAL is also the basis for ADA, the evolving standard Defense Department realtime language.

This unique workshop enables you to design and write PASCAL programs and evaluate high-level languages for your application. A fully-equipped laboratory will provide facilities to write and execute PASCAL programs during individual and group exercises. Use of the new Boston Systems Office PASCAL cross compiler will be demonstrated.

George Poonen, Manager of Languages and Data Base Research at Digital Equipment Corp. will conduct the workshop.

WARNING:

Participants should expect to devote some evening hours to course preparation and group programming exercises.

Familiarity with mini or microcomputer architecture and experience with high-level language programming is assumed.

UPCOMING WORKSHOPS:

- December 3-7, 1979
Holiday Inn
Palo Alto, California
- April 25-26, May 1-3, 1980
Polytechnic Westchester Center
White Plains, New York
- Or on-site at your facility

PASCAL P FOR MINI AND M

Content:

1. Introduction

- motivation behind the use of high-level languages and structured software development

2. PASCAL

The goal of this part will be to introduce you to PASCAL through a series of case studies and examples. You will get an opportunity to write your own PASCAL programs and execute them. The emphasis throughout will be on:

- a. Mastery of the language, and
- b. Developing good programming style

A) PASCAL-I

- general form of PASCAL programs
- assignment statement
- basic I/O
- reading programs, syntax charts
- programming exercise

B) PASCAL-II

- constants, variables
- primitive data types
- precedence of operators
- lab (supervised sessions during which you will complete the given exercises)

C) PASCAL-III

- conditions
- loop structures
- selection
- exercise using basic statements

D) PASCAL-IV

- introduction to procedures
- passing parameters by value and by reference
- functions
- nested procedures/functions and scope of names
- lab

L PROGRAMMING

ND MICROCOMPUTERS / Oct. 22-26, 1979

E) PASCAL-V

- general concepts of data types
- user-defined data types
- scalar data types
- arrays
- exercise: use of data types

F) PASCAL-VI

- records
- sets
- pointers
- dynamic storage
- lab

G) PASCAL-VII

- sequential and text files
- formatting
- list processing
- interfacing to peripherals
- recursion
- advanced features—extensions
- survey of PASCAL implementations
- exercise: building a simple translator

3. High-level languages

Having learned one language, you will now be presented with a generic approach to programming languages. This approach will enable you to grasp the essential features of new languages in a matter of days.

- general approach to learning languages including PL/M and PL/Z
- introduction to ADA
- exercise: ADA program

4. Compilers and optimization

A brief introduction to compiler design and organization to illustrate trade-offs in language design and use. This session's objective is to enable you to utilize high-level languages in the most effective way.

- design and organization of compilers
- what good compilers will and won't do for you
- programming techniques to improve performance
- space/time trade-offs
- examples from LSI-11, Intel 8085, P-Code Machines

5. Evaluation of languages

- language comparison
- when and when not to use high-level languages

6. Summary

- new developments in languages and their use in small computers

Course materials:

Specially prepared course notes, programming aids, and the following text are provided for class use and future reference:

Programming In PASCAL
by P. Grogono.

Tuition, schedule and continuing education credits

Tuition is \$600. This includes course notes and text, as well as Tuesday evening reception. The seminar is scheduled for 8:30 a.m. Monday, October 22, 1979, through 4:30 p.m. Friday, October 26, 1979.

3 continuing education units will be offered by Polytechnic Institute of New York to participants completing the course.

Further information

For additional information on course objectives and intended audience, you can call the course coordinator, Mr. Poonen, at 617/493-3537. For administrative information, call the Institute for Advanced Professional Studies at 617/964-1412. Participants are urged to register early as enrollment is limited.

In-house programs:

This workshop plus a variety of other customized technical and management courses are available for on-site presentation. Contact Donald French at (617) 964-1412 for details.

Course Registration Form

Please register me for the following course, PASCAL PROGRAMMING FOR MINI AND MICROCOMPUTERS co-sponsored by Polytechnic Institute of New York and Institute for Advanced Professional Studies:

- ☐ Oct. 22-26, Ramada Inn, Woburn, MA
- ☐ Dec. 3-7, Holiday Inn, Palo Alto, CA
- ☐ Apr. 25-26, May 1-3, 1980, White Plains, NY
- ☐ Sorry, I cannot attend — but please add my name to your mailing list.

Tuition is \$600. Make checks payable to Institute for Advanced Professional Studies.
Please make room reservations early, directly with the hotel.

Name	Job title	
Employer	Business phone	
Business address		
City	State	Zip
Home address		

Return this segment to: Institute for Advanced Professional Studies
One Gateway Center, Newton, MA 02158 Tel. (617) 964-1412

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On-Site Workshops

Customized training tailored in content and format is available to industry and governmental agencies. The workshop leaders are recognized professionals with extensive industrial and teaching experience. Current on-site offerings include:

Technical Management

- ☐ Managing Technical Programs and Projects

Software Design and Evaluation

- ☐ Structured Design and Analysis
- ☐ PASCAL and the Evaluation of High-Level Languages
- ☐ ADA: Introduction and Trends
- ☐ High-Level Languages Evaluation
- ☐ Compiler Development and Optimization

Computer Hardware and Systems Design

- ☐ 16-Bit Microcomputer Design and Minicomputer Comparison
- ☐ Microcomputer Hardware and System Design
- ☐ Bit-Slice Microcomputer and Digital System Design

Test Engineering

- ☐ Testing Microprocessor-Based Boards
- ☐ Designing for Testability
- ☐ Diagnostic Software Development

Additional information is available. Call Donald French at 617/964-1412. Or you can use this form to indicate which of the above topics are of interest to you. Please send the entire page to Institute for Advanced Professional Studies, One Gateway Center, Newton, MA 02158.

Name	Job Title	
Employer	Business Phone	
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